

CLAIMS

What is claimed is:

1. A magazine assembly for a fastening tool, the magazine assembly comprising:

a magazine housing defining a follower housing portion with an upper end and a lower end;

a follower structure at least partially disposed in the follower housing portion;

a spring associated with the magazine housing and the follower structure, the spring biasing the follower structure upwardly toward the upper end of the follower housing portion;

a catch having a first catch portion, which is associated with the follower structure, and a second catch portion, which is associated with the magazine housing, the catch being selectively operable in an engaged condition that maintains the follower structure in a predetermined position relative to the magazine housing,

wherein the catch is situated in the engaged condition in response to manually releasing the follower structure following an initial downwardly directed contact event to thereby permit the spring to bias the follower structure upwardly in the follower housing portion; and

wherein the catch is changed from the engaged condition to an unengaged condition in response to a subsequent downwardly directed contact event.

2. The magazine assembly of Claim 1, wherein the first catch portion includes a loading cam and the second catch portion includes a follower hook, the follower hook extending around a portion of the loading cam when the catch is engaged.

3. The magazine assembly of Claim 2, wherein contact between the loading cam and the follower hook during the initial downwardly directed contact event causes the follower hook to translate in a first direction that is generally perpendicular to a feed direction of the fasteners.

4. The magazine assembly of Claim 3, wherein contact between the loading cam and the follower hook immediately following the initial downwardly directed contact event causes the follow hook to both translate in a direction opposite the first direction and pivot about a pivot axis.

5. The magazine assembly of Claim 2, wherein contact between the loading cam and the follower hook during the subsequent downwardly directed contact event causes the follower hook to pivot about a pivot axis.

6. The magazine assembly of Claim 2, wherein the second catch portion further comprises an end cap that covers at least a portion of the lower end of the follower housing portion.

7. The magazine assembly of Claim 6, wherein at least one follower spring biases the follower hook in a predetermined rotary direction about an axis as well as in a predetermined direction along the axis.

8. The magazine assembly of Claim 7, wherein the follower spring is a combination compression and torsion spring.

9. The magazine assembly of Claim 1, wherein the follower structure includes an actuating lever and a follower body.

10. The magazine assembly of Claim 9, wherein the spring includes a flat band spring and a pin, the band spring being wound about the pin, the pin being supported by the follower body.

11. The magazine assembly of Claim 10, wherein the follower body includes a pair of spaced-apart legs and the pin extends between and is supported by the spaced-apart legs.

12. The magazine assembly of Claim 11, wherein each on the spaced-apart legs includes a roller slot into which an associated end of the pin is disposed.

13. The magazine assembly of Claim 11, wherein the first catch portion is formed on a first one of the spaced-apart legs and the actuating lever is coupled to the other one of the spaced-apart legs.

14. A fastening tool assembly comprising:

a fastening tool; and

a magazine assembly associated with the fastening tool, the magazine assembly being configured to hold and progressively dispense a plurality of fasteners, the magazine assembly including a magazine housing, a follower structure, a spring and a catch, the magazine housing having a follower housing portion with an upper end and a lower end, the follower structure including a follower body and an actuating lever, the follower body being at least partially disposed in the follower housing portion, the actuating lever extending from the magazine housing and being configured to receive a manual input from a finger of a user, the manual input being configured to translate the follower body downwardly in the follower housing portion, the spring being associated with the magazine housing and the follower structure and configured to bias the follower structure upwardly toward the upper end of the follower housing portion, the catch including a first catch portion that is coupled to the follower body and a second catch portion that is associated with the magazine housing, the catch being operable in an unlatched condition, which does not inhibit upward translating movement of the follower structure relative to the magazine housing, and a latched condition in which the first and second catch portions engage one another to inhibit the follower body from moving upwardly in the follower housing portion;

wherein the user need only press the actuating lever downward to cause the follower structure to translate downward relative to the magazine housing beyond a predetermined point and thereafter release the actuating lever to change the catch from the latched condition to the unlatched condition.

15. The fastening tool assembly of Claim 14, wherein the fastening tool is a nailer.
16. The fastening tool assembly of Claim 15, wherein the fastening tool is pneumatically operated.
17. The fastening tool assembly of Claim 14, wherein the follower body includes a downwardly extending leg to which the first catch portion is coupled.
18. The fastening tool assembly of Claim 17, wherein the first catch portion includes a groove that is formed in the leg of the follower body, the leg cooperating with the second catch portion to limit an amount by which the follower body may be translated toward the lower end of the magazine housing prior to situating the catch in the latched condition.
19. The fastening tool assembly of Claim 18, wherein the first catch portion further includes a catch aperture for receiving a portion of the second catch portion, the catch aperture being formed below the groove, wherein receipt of the portion of the second catch portion into the catch aperture inhibits movement of the follower body in an upward direction relative to the magazine housing.
20. The fastening tool assembly of Claim 19, wherein the portion of the second catch portion is a follower hook.

21. The fastening tool assembly of Claim 19, wherein the first catch portion further includes a tapered ramp that extends outwardly and upwardly from a distal end of the leg, the tapered ramp being configured to push the portion of the second catch portion such that it passes along a side of the leg when the first and second catch portions contact one another prior to the catch being situated in the latched condition.

22. The fastening tool assembly of Claim 19, wherein the first catch portion further includes an unloading cam that is formed on a side of the leg adjacent a side on which the groove is formed.

23. The fastening tool assembly of Claim 22, wherein the unloading cam includes a generally vertical surface of the leg, a downwardly skewed surface and an upwardly skewed surface, the downwardly skewed surface and the upwardly skewed surface intersecting one another to form a generally V-shaped notch in the generally vertical surface of the leg.

24. The fastening tool assembly of Claim 23, wherein translation of the follower body toward the lower end of the magazine housing after the catch has been situated in the latched condition brings the upwardly skewed surface into contact with the portion of the second catch portion to thereby pivot the portion of the second catch portion in a direction away from the leg of the follower body.

25. A fastening tool assembly comprising:

a fastening tool; and

a magazine assembly associated with the fastening tool, the magazine assembly being configured to hold and progressively dispense a plurality of fasteners, the magazine assembly including a magazine housing, a guide tab, a first catch portion, a second catch portion and a spring, the magazine housing being configured to hold the fasteners and having a follower housing portion with an upper end and a lower end, the guide tab being at least partially housed in the magazine housing and being configured to guide the fasteners while they are being progressively dispensed from the magazine housing, the first catch portion being coupled to one of the magazine housing and the follower structure, the second catch portion being coupled to the other one of the magazine housing and the follower structure, the spring biasing at least one of the first catch portion and the second catch portion away from the other one of the first catch portion and the second catch portion;

wherein the first catch portion and the second catch portion cooperate with one another to permit the guide tab to be latched in a loading position whereby the fasteners may be loaded into the magazine housing, the first catch portion and the second catch portion being configured such that engagement of the first catch portion and the second catch portion is effected through relative translation of one of the first catch portion and the second catch portion toward the other one of the first catch portion and the second catch portion followed by relative translation of the one of the first catch portion and the second catch portion away from the other one of the first catch portion and the second catch portion; and

wherein the first catch portion and the second catch portion being further configured such that disengagement of the first catch portion and the second catch portion from one another is effected solely through translation of the one of the first catch portion and the second catch portion toward the other one of the first catch portion and the second catch portion followed by relative translation of the one of the first catch portion and the second catch portion away from the other one of the first catch portion and the second catch portion.

26. The fastening tool assembly of Claim 25, wherein the first catch portion includes a groove that is formed in the leg of the follower body, the leg cooperating with the second catch portion to limit an amount by which the follower body may be translated toward the lower end of the magazine housing prior to situating the catch in the latched condition.

27. The fastening tool assembly of Claim 26, wherein the first catch portion further includes a catch aperture for receiving a portion of the second catch portion, the catch aperture being formed below the groove, wherein receipt of the portion of the second catch portion into the catch aperture inhibits movement of the follower body in an upward direction relative to the magazine housing.

28. The fastening tool assembly of Claim 27, wherein a lower surface of the groove slopes toward the catch aperture.

29. The fastening tool assembly of Claim 27, wherein the portion of the second catch portion is a follower hook.

30. The fastening tool assembly of Claim 27, wherein the first catch portion further includes a tapered ramp that extends outwardly and upwardly from a distal end of the leg, the tapered ramp being configured to push the portion of the second catch portion such that it passes along a side of the leg when the first and second catch portions contact one another prior to the catch being situated in the latched condition.

31. The fastening tool assembly of Claim 30, wherein the first catch portion further includes an unloading cam that is formed on a side of the leg adjacent a side on which the groove is formed.

32. The fastening tool assembly of Claim 31, wherein the unloading cam includes a generally vertical surface of the leg, a downwardly skewed surface and an upwardly skewed surface, the downwardly skewed surface and the upwardly skewed surface intersecting one another to form a generally V-shaped notch in the generally vertical surface of the leg.

33. The fastening tool assembly of Claim 32, wherein translation of the follower body toward the lower end of the magazine housing after the catch has been situated in the latched condition brings the upwardly skewed surface into contact with the portion of the second catch portion to thereby pivot the portion of the second catch portion in a direction away from the leg of the follower body.

34. The fastening tool assembly of Claim 25, wherein the first catch portion includes a loading cam and the second catch portion includes a follower hook, the follower hook extending around a portion of the loading cam when the catch is engaged.

35. The fastening tool assembly of Claim 34, wherein contact between the loading cam and the follower hook when the one of the first catch portion and the second catch portion is undergoing relative translation toward the other one of the first catch portion and the second catch portion prior to engagement of the first and second catch portions causes the follower hook to translate in a first direction that is generally perpendicular to a feed direction of the fasteners.

36. The fastening tool assembly of Claim 35, wherein contact between the loading cam and the follower hook when the one of the first catch portion and the second catch portion is undergoing relative translation away from the other one of the first catch portion and the second catch portion immediately prior to effecting engagement of the first and second catch portions causes the follow hook to both translate in a direction opposite the first direction and pivot about a pivot axis.

37. The fastening tool assembly of Claim 34, wherein contact between the loading cam and the follower hook to effect disengagement of the first and second catch portions causes the follower hook to pivot about a pivot axis.

38. A fastening tool assembly comprising:

a fastening tool; and

a magazine assembly associated with the fastening tool, the magazine assembly being configured to hold a plurality of fasteners and progressively dispense the fasteners, the magazine assembly including a magazine housing, a guide tab movably disposed in the magazine housing and a catch for selectively securing the guide tab relative to the magazine housing in a loading position that permits one or more fasteners to be loaded into the magazine housing, wherein the catch is solely responsive to translation of the guide tab within the magazine housing to latch the guide tab into the loading position and unlatch the guide tab from the loading position.

39. The fastening tool assembly of Claim 38, wherein a movement consisting of a downwardly directed movement of the guide tab followed by an upwardly directed movement of the guide tab is required to unlatch the guide tab from the loading position.

40. The fastening tool assembly of Claim 39, wherein a movement consisting of a downwardly directed movement of the guide tab followed by an upwardly directed movement of the guide tab is required to latch the guide tab into the loading position.

41. The fastening tool assembly of Claim 38, wherein a movement consisting of a downwardly directed movement of the guide tab followed by an upwardly directed movement of the guide tab is required to latch the guide tab into the loading position.

42. A method for operating a fastening tool assembly having a fastening tool and a magazine assembly, the magazine assembly including a magazine housing, a guide tab, a spring and a catch, the guide tab being at least partially disposed in the magazine housing, the spring being operable for biasing the guide tab upwardly in the magazine housing, the catch being operable in an engaged condition for holding the guide tab in a position that permits a plurality of fasteners to be loaded into the magazine housing, the catch being further operable in a disengaged condition that does not inhibit upward movement of the guide tab in the magazine housing, the method comprising:

pushing the guide tab to a predetermined point at a lower end of the magazine housing;

releasing the guide tab so that the spring lifts the guide tab upwardly from the predetermined point to engage the catch;

loading the plurality of fasteners into the magazine housing;

pushing the guide tab toward the lower end of the magazine housing to disengage the catch; and

releasing the guide tab to permit the spring to raise the guide tab toward the upper end of the magazine housing.